UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Robert E. Krebs		MYINT, DENNIS Y	

Robert E. Krebs
Thelen Reid & Priest LLP
P.O. Box 640640
San Jose, CA 95164-0640

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2162	

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Please find below and/or attached an Office communication concerning this application or proceeding.

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	Application No.	Applicant(s)
Office Action Summary	10/687,218	TOSEY, JOSEPH PETER ROBERT
	Examiner	Art Unit	
	Dennis Myint	2162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 October 2003*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-206* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-206* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date *10/15/2003*.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1-206 have been examined.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2.   Claim 1, 2, 10,13, 16-18, 21, 24-29, 32, 35-37, 40, 43, 45, 46, 54,57, 60-62, 65,

68-73, 76, 79-81, 84, 87-90, 98, 101, 104, 105, 106, 109, 112, 114-117, 120, 123-125,

128, 131, 133, 134, 142, 145-147, 150-156, 159, 160, 163, 165, 166, 174, 177-179,

182, 183-187, 190-192, and 195 are rejected under 35 U.S.C. 102(b) as being

anticipated by Li (U.S. Patent Number 5774588).

As per claim 1, Li is directed to a method for creating a keyword string database

(Li, Column 6 Line 10-21, i.e., "A Lexicon" and "An example of such a lexicon would be

a list of city names in the United States, which could contain about 45,000 valid

entries."), the method comprising:

determining one or more candidate keyword strings to store in said database (Li,

Column 6 Line 40-50, i.e. "valid lexicon strings (such as legal and correct city

names)..");

creating one or more bit vectors based at least in part on said one or more

candidate keyword strings (Li, Column 6 Line 40 through Column 9 Line

35), said one or more bit vectors for use in comparing an input bit vector

with said one or more bit vectors to indicate whether an input keyword

string represented by said input bit vector matches said one or more

candidate keyword strings (Li, Column 9 Line 39 through Column 13 Line

62); and

storing said one or more bit vectors (Li, Column 7, Line 1-3, i.e. "Signature

Vector") and a reference to said one or more candidate keyword strings in said

database (Li, Figure 2, "Store **pointers** to Lexicon Entries in Bucket Address

Table" 240).

As per claim 2, Li is directed to the method of claim 1 wherein said bit vector

further comprises at least one bit that represents a non-alphanumeric symbol (Li,

Column 6 Line 43-47, i.e. "All lower case letters were mapped to their upper case

letters, all between word spaces are stripped, and all non-alphanumeric characters are

mapped to a selected specific non-alphanumeric characters (for example, "?")"). It is

inherent that those non-alphanumeric will be represented in the signature vector, which

represents the original string. (Li, Column 7, Line 1-3, i.e. "Signature Vector").

As per claim 10, Li is directed to a method for incremental keyword search, the

method comprising:

submitting an input keyword string comprising one or more words comprising one

or more symbols (Li, Column 6 Line 10-21 and Column 8 Line 51 through Column 13

Line 62); and

receiving in response to said submitting at least one candidate keyword string

having a bit vector that matches a bit vector of said input keyword string (Li, Column 6

Line 10-21 and Column 8 Line 51 through Column 13 Line 62).

As per claim 13, Li is directed to a method for incremental keyword search, the

method comprising:

receiving an input keyword string comprising one or more words comprising one

or more symbols (Li, Column 6 Line 10-21, Column 6 Line 40 through Column 9 Line

35);

creating a bit vector based at least in part on said input keyword string (Li,

Column 8 Line 51 through Column 9 Line 58);

comparing said bit vector with one or more other bit vectors representing at least

one candidate keyword string to create a set of matching bit vectors (Li, Column 8 Line

51 through Column 9 Line 36);

applying a conventional keyword matching algorithm ("comparing vectors") to

said at least one candidate keyword string represented by said set of matching bit

vectors (Li, Column 9 Line 58 through Column 13 Line 62) ; and

presenting any matching candidate keyword strings (Li, Figure 2, "Output Final

Candidate List" 155).

As per claim 16, Li is directed the method of claim 13 wherein said comparing is

independent of the order of keyword prefixes in keyword strings (Li, Column 8 50

through Column 9 Line 59). Note that, in the method and system of Li, *between-word*

spaces in input strings are stripped (Column 6 Line 40-50), said input strings are

partitioned and hashed, then formed into bi-gram bit vectors and finally transformed into.

a signature vector (Li, Column 6, Line 40 through Column 7 Line 3). As such, the

method of Li is capable of comparing input string independent of the order of keyword

prefixes.

As per claim 17, Li is directed to a method for creating a keyword string

database, the method comprising:

determining one or more candidate keyword strings to store in said database (Li,

Column 6 Line 40-50, i.e. "valid lexicon strings (such as legal and correct city

names)....."):

creating one or more bit vectors based at least in part on said one or more

candidate keyword strings (Li, Column 6 Line 40 through Column 9 Line

35), said bit vector having a bit position for each symbol in an alphabet

and having bits set for bit positions corresponding to at least one symbol

representing the first symbol of a word in said one or more candidate

keyword strings (Li, Column 6 Line 40 through Column 9 Line 35), said

one or more bit vectors for use in comparing an input bit vector with said

one or more bit vectors to indicate whether an input keyword string

represented by said input bit vector matches said one or more candidate

keyword strings (Li, Column 8 Line 51 through Column 9 Line 36); and

storing said one or more bit vectors and a reference to said one or more

candidate keyword strings in said database (Li, Column 7, Line 1-3, i.e.

"Signature Vector" and Li, Figure 2, "Store pointers to Lexicon Entries in

Bucket Address Table" 240).

Claim 18 is rejected on the same basis as claim 17.

As per claim 21, Li is directed to a method for incremental keyword search, the

method comprising:

receiving an input keyword string comprising one or more words comprising one

or more symbols (Li, Column 6 Line 10-21, Column 6 Line 40 through Column 9 Line

35);

creating a bit vector based at least in part on said input keyword string (Li,

Column 6 Line 40 through Column 9 Line 35), said bit vector having a bit position for

each symbol in an alphabet and having bits set for positions corresponding to at least

one symbol representing the first symbol of a word in said input keyword string (Li,

Column 6 Line 40 through Column 9 Line 35);

comparing said bit vector with one or more other bit vectors representing at least

one candidate keyword string to create a set of matching bit vectors (Li, Column 8 Line

51 through Column 9 Line 36);

applying a conventional keyword matching algorithm to said at least one

candidate keyword string represented by said set of matching bit vectors (Li, Column 9

Line 58 through Column 13 Line 62); and

presenting any matching candidate keyword strings (Li, Figure 2, "Output Final

Candidate List" 155).

Claim 24 is rejected on the same basis as claim 16.

As per claim 25, Li is directed to a method for comparing keyword strings, the

method comprising:

determining a relative frequency of use for at least one symbol in a language (Li,

Column 7 Line 4-40, i.e. "frequency table");

assigning a statistical weighting ("A counter is accumulated ...") to said at least one

symbol based at least in part on a relative frequency of use of said at least one

symbol (Li, Column 7 Line 4-40);

assigning each of said at least one symbol to one of a plurality of groups (Li, Column 7

Line 4-40, "first group"); and

comparing a first keyword string and a second keyword string based at least in part on

whether at least one symbol of said first keyword string is assigned to the same

group as at least one corresponding symbol of said second keyword string (Li,

Column 8 Line 51 through Column 9 Line 36).

As per claim 26, Li is directed to the method of claim 25 wherein said assigning

further comprises assigning each of said at least one symbol to one of a plurality of

groups so as to minimize the difference between the sums of statistical weightings for

symbols comprising each group in said plurality of groups (Li, Column 7 Line 4-40,

"groups").

As per claim 27, Li is directed to the method of claim 25 wherein said relative

frequency of use comprises the relative frequency of use of symbols in the first

character of words in said language (Li, Column 7 Line 4-40).

As per claim 28, Li is directed to a method for creating a keyword string database, the method comprising:

determining one or more candidate keyword strings to store in said database (Li, Column 6 Line 40-50, i.e. "valid lexicon strings (such as legal and correct city names).....");

creating one or more bit vectors based at least in part on said one or more

candidate keyword strings (Li, Column 6 Line 40 through Column 9 Line

35), each bit of said one or more bit vectors corresponding to one or more

symbols in an alphabet, bits having a bit position corresponding to the first

symbol of a word in said one or more candidate keyword strings being set

(Li, Column 6 Line 40 through Column 9 Line 35), said one or more bit

vectors for use in comparing an input bit vector with said one or more bit

vectors to indicate whether an input keyword string represented by said

input bit vector matches said one or more candidate keyword strings (Li,

Column 8 Line 51 through Column 9 Line 36); and

storing said one or more bit vectors and a reference to said one or more

candidate keyword strings in said database (Li, Column 7, Line 1-3 and Li, Figure 2,

"Store pointers to Lexicon Entries in Bucket Address Table" 240).

As per claim 29, Li is directed to a method for incremental keyword search, the method comprising:

submitting an input keyword string comprising one or more words comprising one or more symbols, each symbol representing the first symbol of a word in a search

string (Li, Column 6 Line 10-21, Column 6 Line 40 through Column 9 Line 35); and

receiving in response to said submitting at least one candidate keyword string where the first symbol of each word in each candidate keyword string is comprised by a group comprising said one or more symbols (Li, Column 8 Line 51 through Column 9 Line 36).

As per claim 32, Li is directed to a method for incremental keyword search, the method comprising:

receiving an input keyword string comprising one or more words comprising one or more symbols, each symbol representing the first symbol of a word in a search string (Li, Column 6 Line 10-21, Column 6 Line 40 through Column 9 Line 35);

creating a bit vector based at least in part on said input keyword string, each bit corresponding to one or more symbols in an alphabet, bits having a bit position corresponding to said one or more symbols being set (Li, Column 8 Line 51 through Column 9 Line 58);

comparing said bit vector with one or more other bit vectors representing at least one candidate keyword string to create a set of matching bit vectors (Li, Column 8 Line 51 through Column 9 Line 36);

applying a conventional keyword matching algorithm to said at least one candidate keyword string represented by said set of matching bit vectors (Li, Column 9 Line 58 through Column 13 Line 62); and

presenting any matching candidate keyword strings (Li, Figure 2, "Output Final Candidate List" 155).

Claim 35 is rejected on the same basis as claim 16.

As per claim 36, Li is directed to a method for creating a keyword string

database, the method comprising:

determining one or more candidate keyword strings to store in said database (Li,

Column 6 Line 40-50, i.e. "valid lexicon strings (such as legal and correct city

names)....");

creating one or more bit vectors based at least in part on said one or more

candidate keyword strings (Li, Column 6 Line 40 through Column 9 Line

35), each bit of said one or more bit vector corresponding to one or more

symbols in an alphabet, bits having a bit position corresponding to a

symbol of a prefix of a word in said one or more candidate keyword strings

being set (Li, Column 6 Line 40 through Column 9 Line 35), said one or

more bit vectors for use in comparing an input bit vector with said one or

more bit vectors to indicate whether an input keyword string represented

by said input bit vector matches said one or more candidate keyword

strings (Li, Column 8 Line 51 through Column 9 Line 36); and

storing said one or more bit vectors and a reference to said one or more

candidate keyword strings in said database (Li, Column 7, Line 1-3, i.e.

"Signature Vector" and Li, Figure 2, "Store pointers to Lexicon Entries in

Bucket Address Table" 240).

As per claim 37, Li is directed to a method for incremental keyword search, the

method comprising:

submitting an input keyword string comprising one or more words comprising one or more symbols (Li, Column 6 Line 10-21, Column 6 Line 40 through Column 9 Line 35); and

receiving in response to said submitting at least one candidate keyword string where a prefix of a word of a matching candidate keyword string comprises at least one symbol that belongs to the same symbol group as the corresponding symbol of the corresponding word in said input keyword string (Li, Column 8 Line 51 through Column 9 Line 36).

As per claim 40, Li is directed to a method for incremental keyword search, the method comprising:

receiving an input keyword string comprising one or more words comprising one or more symbols (Li, Column 6 Line 10-21, Column 6 Line 40 through Column 9 Line 35);

creating a bit vector based at least in part on said input keyword string (Li, Column 6 Line 40 through Column 9 Line 35), each bit corresponding to one or more symbols in an alphabet, bits having a bit position corresponding to a prefix of a word in said one or more symbols being set (Li, Column 6 Line 40 through Column 9 Line 35);

comparing said bit vector with one or more other bit vectors representing at least one candidate keyword string to create a set of matching bit vectors (Li, Column 8 Line 51 through Column 9 Line 36);

applying a conventional keyword matching algorithm to said at least one candidate keyword string represented by said set of matching bit vectors (Li, Column 9 Line 58 through Column 13 Line 62); and

presenting any matching candidate keyword strings (Li, Figure 2, "Output Final Candidate List" 155).

Claim 43 is rejected on the same basis as claim 16.

Claim 45, 46, 54, 57, 60, and 61 are rejected on the same basis as claim 1, 2, 10, 13, 16, and 17 respectively.

Claim 62, 65, 68, 69, 70, 71, 72, 73, 76, 79, 80, 81, 84, 87, 89, 90,98, 101, 104, 105, 106, 109, 112, 113, 114, 115, 116, 117, 120, 123, 124, 125, 128, 131, 133, 134, 142, 145, 146, 147, 150, 151, 152, 153, 154, 155, 158, 159, 160, 163, 165, 166, 174, 177, 178, 179, 182, 183, 184, 185, 186, 187, 190, 191, 192, and 195 are rejected on the same basis as claim 18, 21, 16, 25, 26, 27, 28, 29, 32, 16, 36, 87, 40, 16, 1, 2, 10, 13, 16, 17, 18, 21, 16, 25, 26, 27, 28, 29, 32, 16, 36, 37, 40, 43, 1, 2, 13, 16, 17, 18, 16, 25, 26, 27, 28, 32, 16, 36, 40, 16, 1, 2, 13, 16, 17, 21, 16, 25, 26, 27, 28, 32, 16, 36, 40, and 16 respectively.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3.   Claim 3-9,47-53, 91-97, 135-141, and 167-173 are rejected under 35 U.S.C.

103(a) as being unpatentable over Li in view of Braun (U.S. Patent Application

Publication Number 2004/0064787).

Referring to claim 3, Lin teaches that bit vectors of claim 1 comprises at one bit

that represents an non-alphanumeric symbol but does not explicitly disclose that said bit

non-alphanumeric symbol indicates an email address. However, Braun et al. teaches a

method and system for using a digital pen, wherein non-alphanumeric symbols are used

to indicate a serial number or a type of form (Braun, et al., Paragraph 0049, i.e.

"Additionally, non-alphanumeric characters such as special characters or symbols may

be used to enable the back end application to recognize the unique form indication or

serial number.").

At the time the invention was made, it would have obvious to a person of ordinary

skill in the art to add the feature of using non-alphanumeric symbols to represent other

data such as a serial number, as taught by Braun et al, to the method and system of Li

so that, in the resultant method and system, the non-alphanumeric symbol(s) would

indicate an email. One would have been motivated to do so in order to simply facilitate

search operations.

Referring to claims 4-9, Official Note is taken that the concept of using symbols

to represent/indicate other data is notoriously well known in the art. As such, it would

have been obvious to a person of ordinary skill in the art to make non-alphanumeric

symbols to represent/indicate email or mobile number or wired number or paper-mail

address or cost ranking or quality ranking or a cuisine.

Claims 47-53 are rejected on the same basis as claims 3-9 respectively.

Claims 91-97 are rejected on the same basis as claims 3-9 respectively.

Claims 135-141 are rejected on the same basis as claims 3-9 respectively.

Claims 167-173 are rejected on the same basis as claims 3-9 respectively.

4.   Claim 11-12, 14-15, 19-20, 22-23, 30-31, 33-34, 38-39, 41-42, 55-56,58-59, 63-

64, 66-67, 74-75, 77-78, 82-83, 85-86, 99-100, 102-103, 107-108, 110-111, 118-119,

121-122, 126-127, 129-130, 143-144, 148-149, 156-157, 161-162, 175-176, 180-181,

188-189, and 193-194 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Li in view of Albornoz et al. (U.S. Patent Application Publication Number

2004/0260929).

Referring to claim 11, Li as applied to claim 10 above does not explicitly disclose

that the method of claim 10 is preempted after a predetermined amount of time.

However, Albornoz et al. teaches a method and system for recovering data object

annotations, wherein a searched is ended/preempted after a predetermined amount of

time (Albornoz et al., Paragraph 0054, i.e. "The search continuation a criterion is

evaluated 1507 according to a predetermined plan and if the criterion is met, the search

continues, otherwise, the search is ended 1508. An example continuation is to perform

the search continually during a predetermined period of time....").

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to add the feature of preempting/ending a search after a predetermined period of time, as taught by Albornoz et al., to the method and system of Li so that the resultant method and system would comprise preempting the method of claim 10 after a predetermined period of time. One would have been motivated to do so in order to run the search at regular intervals (Albornoz et al., Paragraph 0053, i.e. "In an alternative embodiment of the system (Fig. 15), the search process may run at regular intervals.").

Referring to claim 12, Official Note is taken that aborting/preempting a search process or any other process after a predetermined amount of time is notoriously well known in the art.

Claims 14-15, 19-20, 22-23, 30-31, 33-34, 38-39, 41-42, 55-56, 58-59, 63-64, 66-67, 74-75, 77-78, 82-83, 85-86, 99-100, 102-103, 107-108, 110-111, 118-119, 121-122, 126-127, 129-130, 143-144, 148-149, 156-157, 161-162, 175-176, 180-181, 188-189, and193-194 are rejected on the same basis as claims 11 and 12 respectively.

5.   Claim 44, 88, 132, 164, and 196 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li in view of Vagonzzi (U.S. Patent Number 6499033) .

Referring to claim 44, Li is directed to a method for incremental keyword search, the method comprising, receiving an input keyword string comprising one or more words comprising one or more symbols, each symbol representing the first symbol of a word in a search string (Li, Column 8 Line 51 through Column 9 Line 36). However, Li does not

explicitly disclose the use of a hierarchy with leaf nodes for storing bit vectors and

searching said hierarchy employing Boolean operations.

On the other hand, Vagonzzi teaches a database method and apparatus using

hierarchical bit vector index structure comprising:

a hierarchy which comprises intermediate nodes and leaf nodes representing

one more keyword strings comprising one or more words comprising one or more

symbols (Vagonzzi, Figure 2, Column 5 Line 44 through Column 6 Line 10, i.e. "The

indexes 30 are actually collections of keys stored in a B-tree.");

creating hierarchy bit vectors corresponding to said one or more keyword strings

in said hierarchy (Vagonzzi, Figure 2, Column 5 Line 44 through Column 6 Line 10, i.e.

"The indexes 30 are actually collections of keys stored in a B-tree."););

searching said hierarchy bit vectors for a match with said input keyword string

(Vagonzzi, Column 10 Line 40 + , i.e. "Query Processing the Indexes"), said searching

comprising, for each of said elements of said hierarchy: saving said input keyword

string; applying a logical "AND" operation to the bit vector of the element and a bit

vector based at least in part on said input keyword string (Vagonzzi, Column 11, Line 1-

27, i.e. " .... then searches the appropriate index for those target keys, starting with the

lowest key.....), said applying producing a result (Official Note: a search always returns

a result); if said result is nonzero, removing from said input keyword string any words in

said input keyword string that are prefixes of words in the element (...If no key is found,

a bit vector of all zeros is returned. If a matching key is found in the index, then the

associated link is used to obtain a bit vector for that key...."); if said input keyword string

is empty, adding said element to a list of matched items ((...If no key is found, a bit

vector of all zeros is returned. If a matching key is found in the index, then the

associated link is used to obtain a bit vector for that key...."); and restoring said input

keyword string; and rendering said list of matched items (Vagonzzi, Column 11, Line 1-

27).

At the time the invention was made, it would have been obvious to a person of

ordinary skill in the art to combine the method and system which employ both bit vectors

and a tree hierarchy as taught by Vagonzzi with the method and system of Li so that the

combined method and system would accommodate bit vectors in a tree hierarchy and

logical searches into the trees could be performed. One would have been motivated to

do so in order to "provide a method and apparatus for managing large amounts of data

in a manner that provides the following benefits: 1. Very fast query response; 2. Fast

Update response; 3. Support for ...." (Vagonzzi, Column 3,

Line 7-26).

Claim 88, 132, 164 , and 196 are rejected on the same basis as claim 44.

6.   Claim 197- 206 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Li in view of Ronchi et al., (U.S. Patent Number 6496836).

Referring to claim 197, Li teaches assigning groups based on frequency of bit

vectors (Li, Column 7 Line 4-40, "groups") and compares groups based on signature

vector. But Li does not explicitly disclose assigning at least one symbol to each group

and comparing keywords based on said symbol (s). However, Ronchi et al. teaches a

method and system for symbol-based memory language, wherein symbols are assigned to a plurality of groups (Ronchi et al, Column 8 Line 32-67 and Column 3 Line 39-44) and based on the symbol selected, a caller is directed to a particular group of communication handlers (Ronchi et al., Column 3 Line 39-44).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to add the feature of employing symbols to groups and using said symbol(s) to channel a caller to a group of handlers based on said symbol(s), as taught by Ronchi et al., to the method and system of Li, which compares bit-vectors which represent strings at least in part based on groups of different bit vector frequencies, so that the resultant method and system would comprise assigning at least one symbol to each group and comparing keywords based on said symbol (s). One would have been motivated to do so in order to "find a way to record information pertaining to their customers quickly, and to access this information consistently, without delay, and in a readily understandable format in order to best satisfy the expectations of their customers." (Ronchi et al. Column 2, Line 34-41)

Referring to claim 198, Li in view of Ronchi et al. as discussed above in regard to claim 197 above discloses the invention as claimed. Li in view of Ronchi et al. teaches the method of claim 197 wherein said plurality of groups corresponds with a telephone keyboard symbol grouping (Ronchi et al., Column 10 Line 1-15).

Claim 199-200, 201-202, 203-204, and 205-206 are rejected on the same basis as claim 197-198 respectively.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Myint whose telephone number is (571) 272-5629. The examiner can normally be reached on 8:30AM-5:30PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dennis Myint   AU-2162

JOHN BREENE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

BG